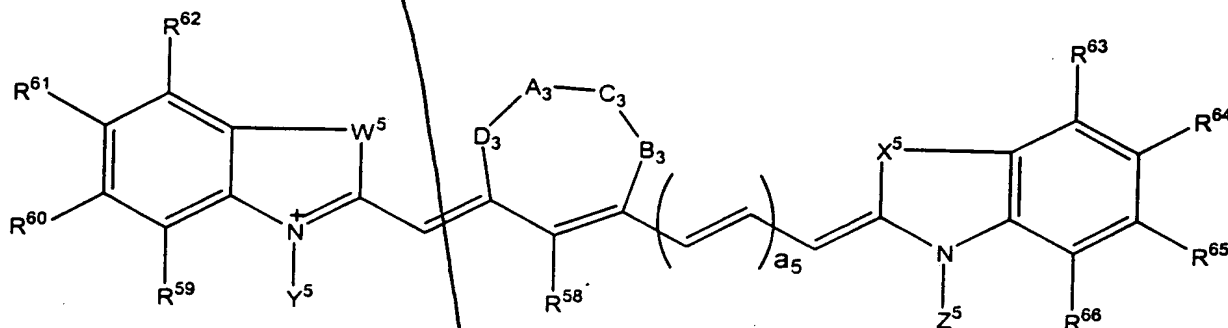


What is claimed is:

1. A method of determining the presence of a substance in a sample, comprising the steps of: (a) providing a sample; (b) measuring the amount of the substance in the sample; (c) comparing the measured amount to a predetermined threshold; and (d) determining the presence of the substance in the sample based on the comparison.

1. A compound of formula



wherein W^5 and X^5 are independently selected from the group consisting of $-CR^1R^2$, $-O-$, $-NR^3$, $-S-$, and $-Se$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-$

5 Bm , $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Bm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-$

Bm , $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-$

10 $(CH_2OCH_2)_d-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-$

$(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Dm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-$

15 Dm , $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-$

Dm , $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-$

$\text{CH}_2\text{-N(R}^3\text{)-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-CONH-Dm, -CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-N(R}^3\text{)-}$
 $\text{CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-NHCO-Dm, -(CH}_2\text{)}_a\text{-NR}^3\text{R}^4$, and $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-}$
 20 $\text{CH}_2\text{NR}^3\text{R}^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are
 independently selected from the group consisting of -O- , -S- , -Se- , -P- ,
 $\text{-CR}^1\text{R}^2$, -CR^1 , alkyl, NR^3 , and -C=O ; A_3 , B_3 , C_3 , and D_3 may together
 form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered
 heterocyclic ring optionally containing one or more oxygen, nitrogen, or
 25 sulfur atom; a_5 vary from 0 to 5; R^1 to R^4 , and R^{58} to R^{66} are
 independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$
 alkyl, $\text{C}_5\text{-C}_{20}$ aryl, $\text{C}_1\text{-C}_{10}$ alkoxy, $\text{C}_1\text{-C}_{10}$ polyalkoxyalkyl, $\text{C}_1\text{-C}_{20}$
 polyhydroxyalkyl, $\text{C}_5\text{-C}_{20}$ polyhydroxyaryl, $\text{C}_1\text{-C}_{10}$ aminoalkyl, cyano,
 nitro, halogen, saccharide, peptide, $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-OH}$, $\text{-(CH}_2\text{)}_a\text{-}$
 30 CO_2H , $\text{-(CH}_2\text{)}_a\text{-CONH-Bm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-CONH-Bm}$, $\text{-(CH}_2\text{)}_a\text{-}$
 NHCO-Bm , $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-NHCO-Bm}$, $\text{-(CH}_2\text{)}_a\text{-OH}$ and $\text{-CH}_2\text{-}$
 $\text{(CH}_2\text{OCH}_2\text{)}_b\text{-CO}_2\text{H}$; Bm and Dm are independently selected from the
 group consisting of bioactive peptide, protein, cell, antibody, antibody
 fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic,
 35 hormone, metal chelating agent, radioactive or nonradioactive metal
 complex, and echogenic agent; a and c independently vary from 1 to
 20; b and d independently vary from 1 to 100.

2. The compound of claim 1 wherein W^5 and X^5 are independently
 selected from the group consisting of $\text{-C(CH}_3\text{)}_2$, $\text{-C((CH}_2\text{)}_a\text{OH)CH}_3$,

$-C((CH_2)_aOH)_2$, $-C((CH_2)_aCO_2H)CH_3$, $-C((CH_2)_aCO_2H)_2$,

$-C((CH_2)_aNH_2)CH_3$, $C((CH_2)_aNH_2)_2$, $C((CH_2)_aNR^3R^4)_2$, $-NR^3$, and $-S$; Y^5

5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-$

$(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-$

$NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is

selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-$

$(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-$

10 $NHCO-Dm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; A_3 is a

single or a double bond; B_3 , C_3 , and D_3 are independently selected from

the group consisting of $-O-$, $-S-$, NR^3 , $(CH_2)_a-CR^1R^2$, and $-CR^1$; A_3 , B_3 ,

C_3 , and D_3 may together form a 6- to 10-membered carbocyclic ring or

a 6- to 10-membered heterocyclic ring optionally containing one or

15 more oxygen, nitrogen, or sulfur atom; a_5 vary from 0 to 3; R^1 to R^4 ,

and R^{58} to R^{66} are independently selected from the group consisting of

hydrogen, C_1-C_{10} alkyl, C_5-C_{12} aryl, C_1-C_{10} alkoxy, C_1-C_{10}

polyhydroxyalkyl, C_5-C_{12} polyhydroxyaryl, C_1-C_{10} aminoalkyl, mono- or

oligosaccharide, peptide with 2 to 30 amino acid units,

20 $-CH_2(CH_2OCH_2)_b-CH_2-OH$, $-(CH_2)_a-CO_2H$, $-(CH_2)_a-CONH-Bm$, $-CH_2-$

$(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-$

$NHCO-Bm$, $-(CH_2)_a-OH$ and $-CH_2-(CH_2OCH_2)_b-CO_2H$; Bm and Dm are

independently selected from the group consisting of bioactive peptide

containing 2 to 30 amino acid units, antibody, mono- or

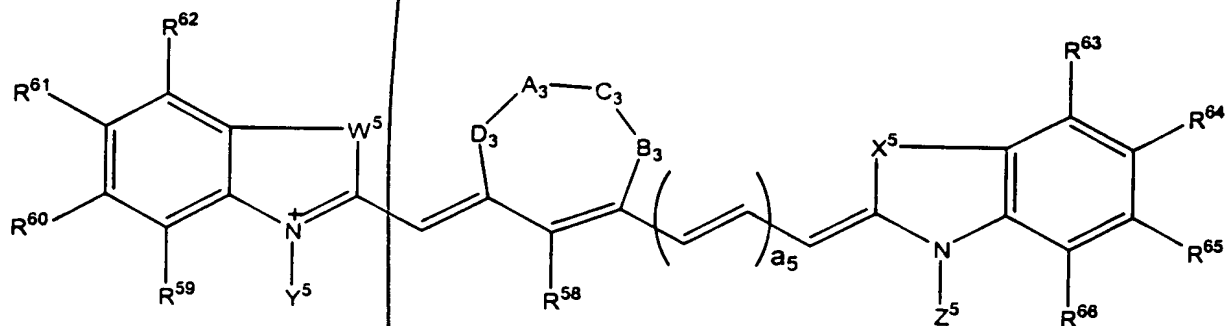
25 oligosaccharide, glycopeptide, metal chelating agent, radioactive or

nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

3. The compound of claim 2 wherein each of W^5 and X^5 is $C((CH_2)OH)_2$; Y^5 is $-(CH_2)_2-CONH-Bm$; Z^5 is $-(CH_2)_2-CONH-Dm$; A_3 is a single bond; A_3 , B_3 , C_3 , and D_3 together form a 6-membered carbocyclic ring; a_5 is 1; R^{58} is galactose; each R^{59} to R^{66} is hydrogen;
- 5 Bm is Octreotate; Dm is bombesin (7-14).

4. A method for performing a diagnostic or therapeutic procedure comprising

administering to an individual an effective amount of the compound of formula



- 5 wherein W^5 and X^5 are independently selected from the group consisting of $-CR^1R^2$, $-O-$, $-NR^3$, $-S-$, and $-Se$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Bm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^3)-CH_2-$
- 10 $(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-$
- $(CH_2OCH_2)_d-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is
- 15 selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-$
- $(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Dm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Dm$, $-(CH_2)_a-N(R^3)-CH_2-$
- $(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-$

$(\text{CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-NHCO-Dm}$, $-\text{CH}_2\text{-(CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-N(R}^3\text{)-(CH}_2)_a\text{-CONH-}$
 20 Dm , $-\text{CH}_2\text{-(CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-N(R}^3\text{)-(CH}_2)_a\text{-NHCO-Dm}$, $-\text{CH}_2\text{-(CH}_2\text{OCH}_2)_b\text{-}$
 $\text{CH}_2\text{-N(R}^3\text{)-CH}_2\text{-(CH}_2\text{OCH}_2)_d\text{-CONH-Dm}$, $-\text{CH}_2\text{-(CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-N(R}^3\text{-}$
 $\text{CH}_2\text{-(CH}_2\text{OCH}_2)_d\text{-NHCO-Dm}$, $-(\text{CH}_2)_a\text{-NR}^3\text{R}^4$, and $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b\text{-}$
 $\text{CH}_2\text{NR}^3\text{R}^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are
 independently selected from the group consisting of $-\text{O-}$, $-\text{S-}$, $-\text{Se-}$, $-\text{P-}$,
 25 $-\text{CR}^1\text{R}^2$, $-\text{CR}^1$, alkyl, NR^3 , and $-\text{C}=\text{O}$; A_3 , B_3 , C_3 , and D_3 may together
 form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered
 heterocyclic ring optionally containing one or more oxygen, nitrogen, or
 sulfur atom; a_5 vary from 0 to 5; R^1 to R^4 , and R^{58} to R^{66} are
 independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$
 30 alkyl, $\text{C}_5\text{-C}_{20}$ aryl, $\text{C}_1\text{-C}_{10}$ alkoxy, $\text{C}_1\text{-C}_{10}$ polyalkoxyalkyl, $\text{C}_1\text{-C}_{20}$
 polyhydroxyalkyl, $\text{C}_5\text{-C}_{20}$ polyhydroxyaryl, $\text{C}_1\text{-C}_{10}$ aminoalkyl, cyano,
 nitro, halogen, saccharide, peptide, $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-OH}$, $-(\text{CH}_2)_a\text{-}$
 CO_2H , $-(\text{CH}_2)_a\text{-CONH-Bm}$, $-\text{CH}_2\text{-(CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-CONH-Bm}$, $-(\text{CH}_2)_a\text{-}$
 NHCO-Bm , $-\text{CH}_2\text{-(CH}_2\text{OCH}_2)_b\text{-CH}_2\text{-NHCO-Bm}$, $-(\text{CH}_2)_a\text{-OH}$ and $-\text{CH}_2\text{-}$
 35 $(\text{CH}_2\text{OCH}_2)_b\text{-CO}_2\text{H}$; Bm and Dm are independently selected from the
 group consisting of bioactive peptide, protein, cell, antibody, antibody
 fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic,
 hormone, metal chelating agent, radioactive or nonradioactive metal
 complex, and echogenic agent; a and c independently vary from 1 to
 40 20; b and d independently vary from 1 to 100, and a pharmaceutically
 acceptable carrier or excipient to form a composition,

activating the compound using light, and
performing the diagnostic or therapeutic procedure.

5. The method of claim 4 comprising administering to an individual an effective amount of the compound wherein W^5 and X^5 are independently selected from the group consisting of $-C(CH_3)_2$, $-C((CH_2)_aOH)CH_3$, $-C((CH_2)_aOH)_2$, $-C((CH_2)_aCO_2H)CH_3$, $-C((CH_2)_aCO_2H)_2$, $-C((CH_2)_aNH_2)CH_3$, $-C((CH_2)_aNH_2)_2$, $-C((CH_2)_aNR^3R^4)_2$, $-NR^3$, and $-S-$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of $-O-$, $-S-$, NR^3 , $(CH_2)_a-CR^1R^2$, and $-CR^1$; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a_5 vary from 0 to 3; R^1 to R^4 , and R^{58} to R^{66} are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{12} aryl, C_1 - C_{10} alkoxy, C_1 - C_{10} polyhydroxyalkyl, C_5 - C_{12} polyhydroxyaryl, C_1 - C_{10} aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units,

-CH₂(CH₂OCH₂)_b-CH₂-OH, -(CH₂)_a-CO₂H, -(CH₂)_a-CONH-Bm, -CH₂-
(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-
NHCO-Bm, -(CH₂)_a-OH and -CH₂-(CH₂OCH₂)_b-CO₂H; Bm and Dm are
independently selected from the group consisting of bioactive peptide
25 containing 2 to 30 amino acid units, antibody, mono- or
oligosaccharide, glycopeptide, metal chelating agent, radioactive or
nonradioactive metal complex, and echogenic agent; a and c
independently vary from 1 to 10; b and d independently vary from 1 to
30.

6. The method of claim 5 comprising administering to an individual
an effective amount of the compound wherein each W⁵ and X⁵ is
C((CH₂)OH)₂; Y⁵ is -(CH₂)₂-CONH-Bm; Z⁵ is -(CH₂)₂-CONH-Dm; A₃ is a
single bond; A₃, B₃, C₃, and D₃ together form a 6-membered
5 carbocyclic ring; a₅ is 1; R⁵⁸ is galactose; each R⁵⁹ to R⁶⁶ is hydrogen;
Bm is Octreotate; Dm is bombesin (7-14).

7. The method of claim 4 wherein said procedure uses light of
wavelength in the region of 350-1300 nm.

8. The method of claim 4 wherein the diagnostic procedure is
optical tomography.

9. The method of claim 4 wherein the diagnostic procedure is fluorescence endoscopy.

10. The method of claim 4 further comprising monitoring a blood clearance profile of said compound by fluorescence, absorbance or light scattering wherein light of wavelength in the region of 350-1300 nm is used.

11. The method of claim 4 wherein said procedure further comprises a step of imaging and therapy wherein said imaging and therapy is selected from the group consisting of absorption, light scattering, photoacoustic and sonofluoresence technique.

12. The method of claim 4 wherein said procedure is for diagnosing atherosclerotic plaques and blood clots.

13. The method of claim 4 wherein said procedure comprises administering localized therapy.

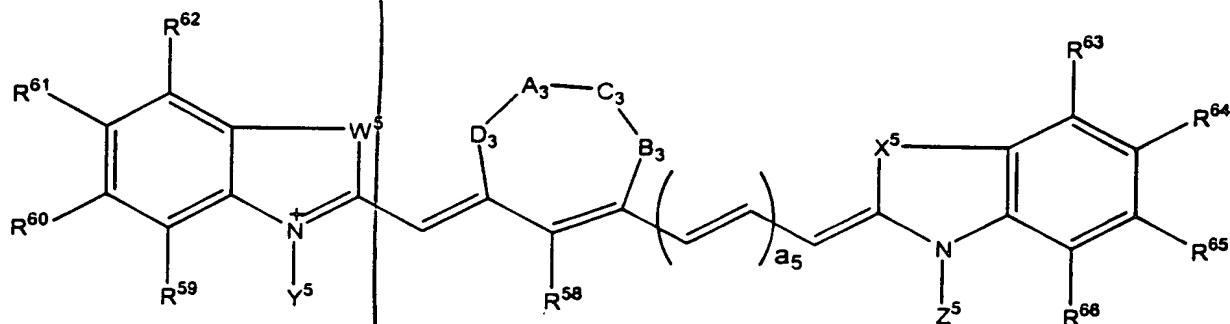
14. The method of claim 4 wherein said therapeutic procedure comprises photodynamic therapy.

15. The method of claim 4 wherein said therapeutic procedure comprises laser assisted guided surgery for the detection of micrometastases.

16. The method of claim 4 further comprising adding a biocompatible organic solvent to the at a concentration of one to fifty percent to the composition to prevent *in vivo* or *in vitro* fluorescence quenching.

17. The method of claim 16 wherein said compound is dissolved in a medium comprising one to fifty percent dimethyl sulfoxide.

18. A composition comprising a cyanine dye bioconjugate of formula



wherein W^5 and X^5 are independently selected from the group consisting of $-CR^1R^2$, $-O-$, $-NR^3$, $-S-$, and $-Se$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-$
 5 Bm , $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Bm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-$
 Bm , $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-$
 $CH_2-N(R^3)-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-$
 10 $(CH_2OCH_2)_d-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-$
 $NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is
 selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-$
 $(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-$
 $NHCO-Dm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Dm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-$
 15 Dm , $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-$
 $(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-$
 Dm , $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-$

$\text{CH}_2\text{-N(R}^3\text{)-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-CONH-Dm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-N(R}^3\text{)-}$
 $\text{CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-NHCO-Dm}$, $\text{-(CH}_2\text{)}_a\text{-NR}^3\text{R}^4$, and $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-}$
 20 $\text{CH}_2\text{NR}^3\text{R}^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are
 independently selected from the group consisting of -O- , -S- , -Se- , -P- ,
 $\text{-CR}^1\text{R}^2$, -CR^1 , alkyl, NR^3 , and -C=O ; A_3 , B_3 , C_3 , and D_3 may together
 form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered
 heterocyclic ring optionally containing one or more oxygen, nitrogen, or
 25 sulfur atom; a_5 vary from 0 to 5; R^1 to R^4 , and R^{58} to R^{66} are
 independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$
 alkyl, $\text{C}_5\text{-C}_{20}$ aryl, $\text{C}_1\text{-C}_{10}$ alkoxy, $\text{C}_1\text{-C}_{10}$ polyalkoxyalkyl, $\text{C}_1\text{-C}_{20}$
 polyhydroxyalkyl, $\text{C}_5\text{-C}_{20}$ polyhydroxyaryl, $\text{C}_1\text{-C}_{10}$ aminoalkyl, cyano,
 nitro, halogen, saccharide, peptide, $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-OH}$, $\text{-(CH}_2\text{)}_a\text{-}$
 30 CO_2H , $\text{-(CH}_2\text{)}_a\text{-CONH-Bm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-CONH-Bm}$, $\text{-(CH}_2\text{)}_a\text{-}$
 NHCO-Bm , $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-NHCO-Bm}$, $\text{-(CH}_2\text{)}_a\text{-OH}$ and $\text{-CH}_2\text{-}$
 $\text{(CH}_2\text{OCH}_2\text{)}_b\text{-CO}_2\text{H}$; Bm and Dm are independently selected from the
 group consisting of bioactive peptide, protein, cell, antibody, antibody
 fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic,
 35 hormone, metal chelating agent, radioactive or nonradioactive metal
 complex, and echogenic agent; a and c independently vary from 1 to
 20; b and d independently vary from 1 to 100, and a pharmaceutically
 acceptable carrier or excipient.

19. The composition of claim 18 wherein W^5 and X^5 are independently selected from the group consisting of $-C(CH_3)_2$, $-C((CH_2)_aOH)CH_3$, $-C((CH_2)_aOH)_2$, $-C((CH_2)_aCO_2H)CH_3$, $-C((CH_2)_aCO_2H)_2$, $-C((CH_2)_aNH_2)CH_3$, $-C((CH_2)_aNH_2)_2$, $-C((CH_2)_aNR^3R^4)_2$, $-NR^3$,
5 and $-S$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2-(CH_2OCH_2)_b-CH_2-NR^3R^4$; Z^5 is selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2-(CH_2OCH_2)_b-CH_2-NR^3R^4$; A_3 is a
10 single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of $-O-$, $-S-$, NR^3 , $(CH_2)_a-CR^1R^2$, and $-CR^1$; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or
15 more oxygen, nitrogen, or sulfur atom; a_5 vary from 0 to 3; R^1 to R^4 , and R^{58} to R^{66} are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{12} aryl, C_1 - C_{10} alkoxy, C_1 - C_{10} polyhydroxyalkyl, C_5 - C_{12} polyhydroxyaryl, C_1 - C_{10} aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units,
20 $-CH_2-(CH_2OCH_2)_b-CH_2-OH$, $-(CH_2)_a-CO_2H$, $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-OH$ and $-CH_2-(CH_2OCH_2)_b-CO_2H$; Bm and Dm are independently selected from the group consisting of bioactive peptide

25 containing 2 to 30 amino acid units, antibody, mono- or oligosaccharide, glycopeptide, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

20. The composition of claim 19 wherein each of W^5 and X^5 is $C((CH_2)OH)_2$; Y^5 is $-(CH_2)_2-CONH-Bm$; Z^5 is $-(CH_2)_2-CONH-Dm$; A_3 is a single bond; A_3 , B_3 , C_3 , and D_3 together form a 6-membered carbocyclic ring; a_5 is 1; R^{58} is galactose; each R^{59} to R^{66} is hydrogen; 5 Bm is Octreotate; Dm is bombesin (7-14).